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AMERICAN GILSONITE COMPANY

BONANZA MINES
BONANZA, UTAH

December 23,1980

Calvin K. Sudweeks, Director
Bureau of Water Pollution Control
Utah State Department of Health
150 West North Temple
P.O. Box 2500
Salt Lake City, Utah 84110

RE: NPDES Discharge Permit No. 0000167

Dear Mr. Sudweeks:

In answer to your letter of October 16,1980, I would like to explain a little about our mining operation at Bonanza, Utah. We mine gilsonite from vertical veins that range in width from a few inches to twenty feet. They range in depth from a few hundred feet to 2000 feet. Most of our current mining takes place from surface to 800 feet.

Gilsonite is a very pure hydrcarbon. It is very low in sulfur and other contaminates. It is also a very stable mineral. It will not dissolve in water nor will it oxidize. Gilsonite on the surface of the ground has the same chemical properties as that found at 2000 feet deep. In our mine water discharges, the gilsonite can only contribute to the suspended solids content and not the dissolved solids.

All of the water discharged at Bonanza is natural ground water from our mines. We have one plant which uses water in it's operation, but there is no discharge from it. The water must be pumped out of the mine to prevent flooding of mine and the resulting hazards to the mine and the miners. Normally even after a mine is mined out it must be kept dewatered to prevent flooding into adjacent active mine areas.

Specifically, discharge 007 is located on the Bonanza vein (see enclosed USGS map). Water from this discharge is pumped from two locations in vein (see enclosed cross-section). The first pump is located in the B - 40 mine. It keeps the area dewatered so mining can continue in B - 42 mine.

The second pump is located in a well drilled along side the vein. It connects to and is used to dewater the old (early 1900's) workings between B - 40 and B - 38 mines. This area must be dewatered in order to mine the area below these old workings. All the samples with highly dissolved solids have come from this second pump.

It is suspected that this well intercepted fractures near the surface and water with highly dissolved solids content is draining into the well from the fractures. It has been our experience in the past that the water with the highest dissolved solids is usually found within the first 100 feet of depth. The amount of water that comes from this second pump is very small compared to the amount pumped from the first pump. The first pump averages 24,000 gallons per week and the second averages 3500 gallons per week. When a weighted average for maximum dissolved solids is calculated for this discharge, it is approximately 3700 mg/l. This is less than the permitted discharge. It was not reported this way since these pumps generally do not pump at the same time. However, neither pump pumps enough water to reach the nearest receiving stream, which is the White River. All the water either soaks back into the ground or evaporates before traveling a few miles down the washes. The only time the salts from this or any of our discharges reaches the White River is when they are diluted with large amounts of surface run off due to either rain or snow melt.

The following paragraphs will be devoted to answering your specific questions:

1. A list of the 1980 samples and dates taken are shown below.

Date	First Pump	Second Pump
April 17,1980	4214	
June 9,1980		8202
August 11,1980	3202	8578
October 23,1980	3002	

The blank spaces in the above data is due to the pump either being shut down or broken down when the samples were taken. As indicated above, it is thought that the highly dissolved comes from fractures very near the surface.

2. Enclosed in this letter is a copy of the USGS topographical map and cross-section map of the Bonanza vein. These have the locations of the mines and pumps referred to in this letter.

3. The dip of the geological structure in this area is about 2 to 3 degrees to the north-west. Ground water would move in that direction. However, I do not know whether or not the ground water comes to the surface anywhere in that direction.

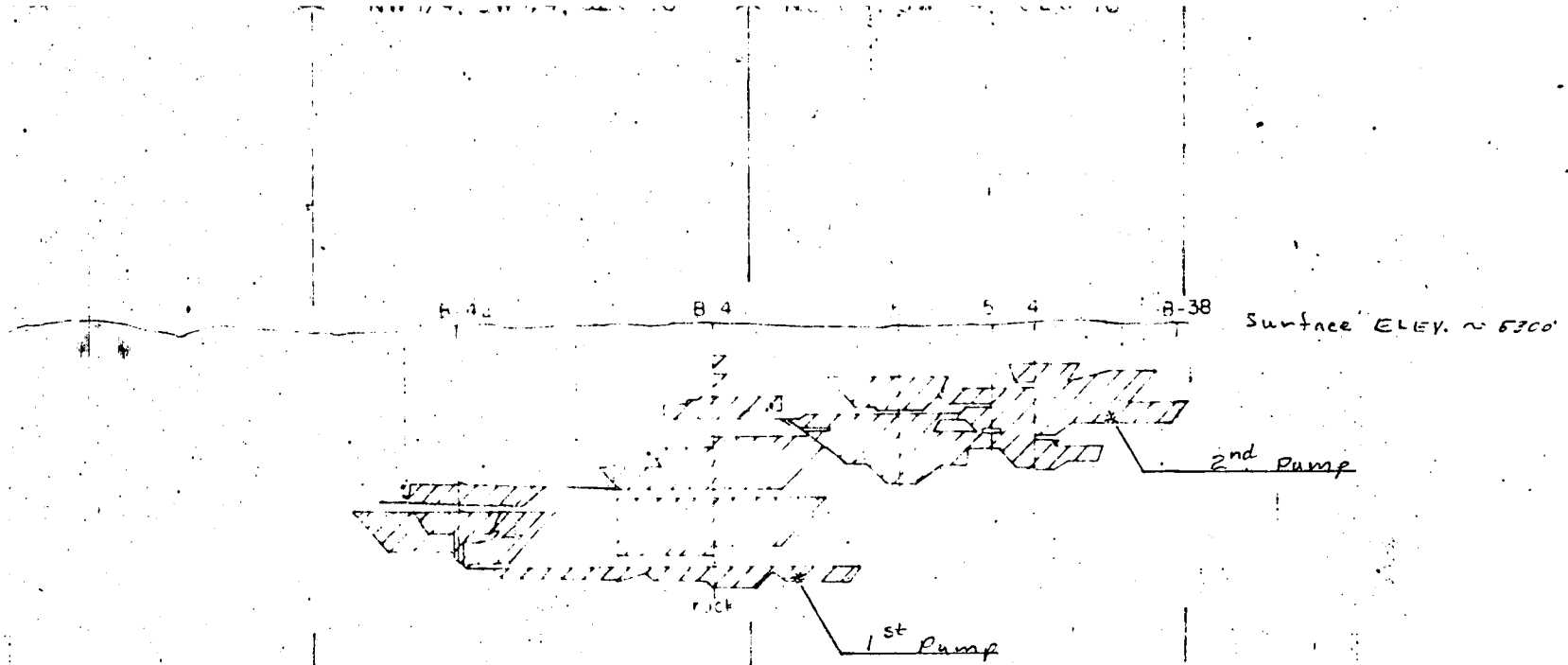
If it does, it would be near the Green River at Jensen.

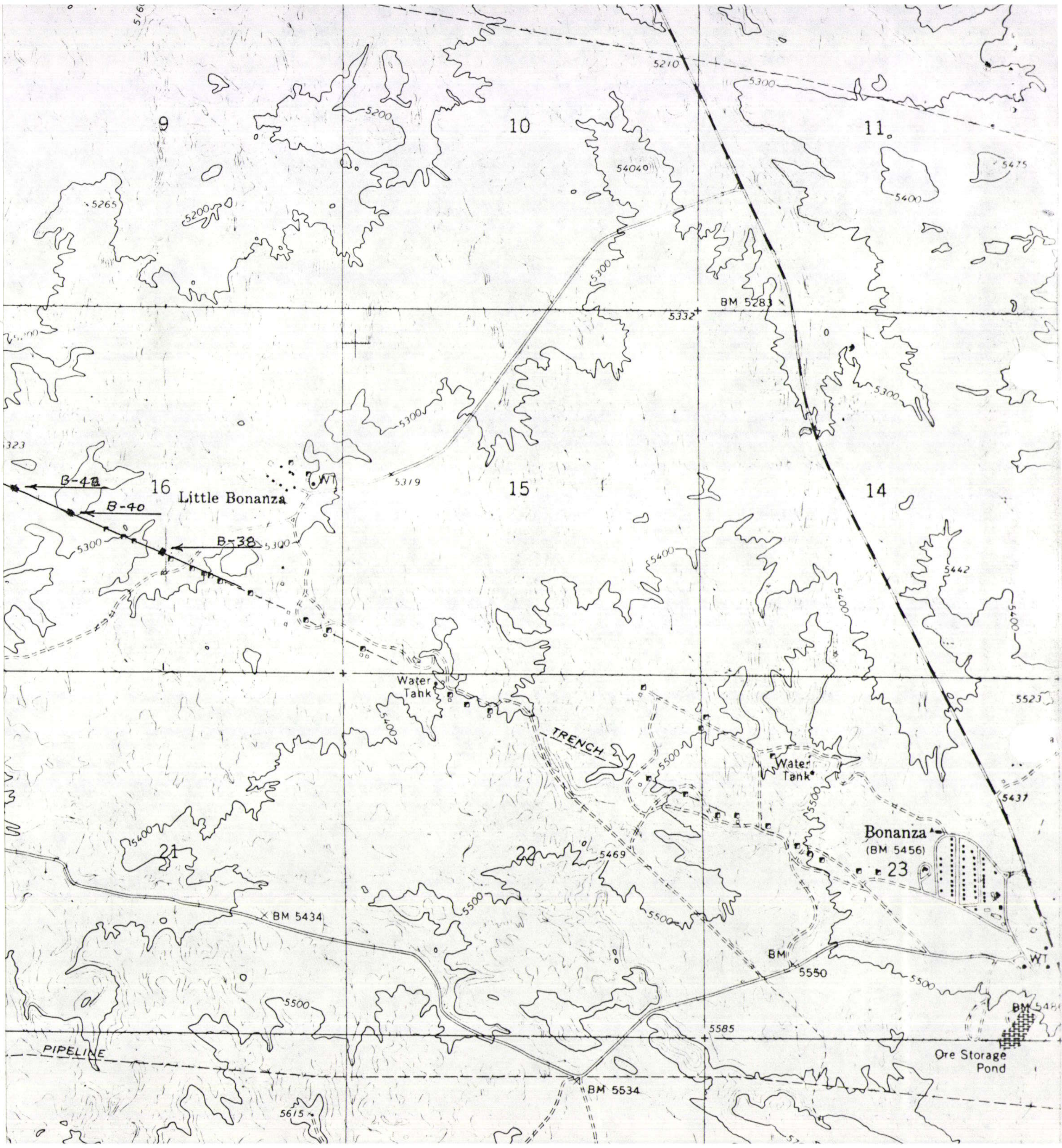
4. A letter has already been submitted to both the State and EPA which states that according to prescribed criteria, it is more expensive to impound our discharge than the damage it causes.

Very Truly Yours,

Neldon Kunz
Chief Engineer

NK/ch


B 4
B 4
B-38
Surface Elev. ~ 6300'
2nd Pump
1st Pump


9
10
11
14
15
16
21
22
23
Little Bonanza
B-42
B-40
B-38
W.T.
Water Tank
Water Tank
TRENCH
Bonanza
(BM 5456)
BM 5283
BM 5434
BM 5534
BM
5550
5585
5332
5319
5469
5442
5437
5523
5265
5210
5475
5615
Ore Storage Pond
PIPELINE
5200
5300
5400
5500